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PATENT
Attorney Docket No. 056291-5288

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Craig JOHNSTONE et al.**) Confirmation No.: *Unassigned*
)
Application No.: **10/579,552**) Group Art Unit: *Unassigned*
)
Filed: **May 16, 2006**) Examiner: *Unassigned*
)
For: **BENZOYL AMINO PYRIDIL CARBOXYLIC**)
ACID DERIVATIVES AS GLUCOKINASE)
ACTIVATORS) Date: **May 2, 2007**

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Window, **Mail Stop Amendment**
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

UNDER 37 C.F.R. § 1.97(b)

Citation of Technically Related U.S. Patent Applications

The Examiner's attention is directed to the following technically related U.S. patents or applications of Applicants' assignee:

Inventor	U.S. Serial No.	U.S. Patent No.	PCT Publication No.
	Filing Date	Issue Date	PCT Publication Date
Barry Raymond Hayter et al.	10/482,264 December 23, 2005		WO 03/000262 January 3, 2003
Scott Boyd et al.	10/486,496 February 11, 2004		WO 03/15774 February 27, 2003
Darren Mckerrecher et al.	10/534,650 May 12, 2005		WO 2004/046139 June 3, 2004
Rodney Brian Hargreaves et al.	10/534,651 May 12, 2005		WO 2004/045614 June 3, 2004
Peter William Rodney Caulkett et al.	10/578,021 April 28, 2006		WO 2005/044801 May 19, 2005
Craig Johnstone et al.	10/579,337 May 15, 2006		WO 2005/054200 June 16, 2005
Peter William Rodney Caulkett et al.	10/579,782 May 18, 2006		WO 2005/056530 June 23, 2005

Inventor	U.S. Serial No. Filing Date	U.S. Patent No. Issue Date	PCT Publication No. PCT Publication Date
Craig Johnstone et al.	10/588,315 August 3, 2006		WO 2005/080360 September 1, 2005
Craig Johnstone et al.	10/588,334 August 3, 2006		WO 2005/080359 September 1, 2005
Craig Johnstone et al.	11/628,448 December 4, 2006		WO 2005/121110 December 22, 2005
Barry Raymond Hayter et al.	11/634,966 December 7, 2006		WO 03/000267 January 3, 2003
Philip Cornwall et al.	11/665,247 April 12, 2007		WO 2006/040527 April 20, 2006
Craig Johnstone et al.	11/665,163 April 12, 2007		WO 2006/040528 April 20, 2006
Craig Johnstone et al.	11/665,222 April 12, 2007		WO 2006/040529 April 20, 2006

With the exception of the document listed in the table above in bold (for which a copy was provided with the previously filed Information Disclosure Statement), a copy of the specification and claims for each application, in the form of the published PCT application from which such application was filed is being filed herewith. Consideration of each listed application is earnestly solicited

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b), Applicants request the Examiner to consider this Information Disclosure Statement and the documents listed on the attached Form PTO-1449. To the best of the undersigned's knowledge, this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits for the above-referenced application. Accordingly, Applicants do not believe a fee is due for filing this Information Disclosure Statement.

With the exception of U.S. Patents and Publications, copies of the listed documents are attached. Applicants respectfully request that the Examiner initial and return the Form PTO-1449, indicating that the information has been considered and made of record herein.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute "prior art." Applicants reserve the right to take appropriate action to establish the patentability of the disclosed

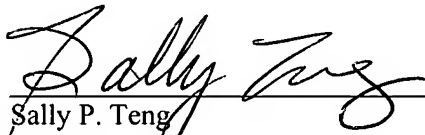
invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

Except for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully Submitted,
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INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Attorney Docket No.
056291-5288Application No.
010/579,552Applicants: Craig JOHNSTON *et al.*PTO Form 1449
May 2, 2007

Filing Date: May 16, 2006

Group Art Unit: Unassigned

U.S. PATENT DOCUMENTS

Initial		Document No.	Date	Name	Class	Sub-Class	Filing Date
	1.	US 2001-027200	October 4, 2001	De la Brouse-Elwood et al.			
	2.	US 3,950,351	April 13, 1976	Rossignol et al.			
	3.	US 4,146,631	March 27, 1979	Ford et al.			
	4.	US 5,258,407	November 2, 1993	Washburn et al.			
	5.	US 5,466,715	November 14, 1995	Washburn et al.			
	6.	US 6,110,945	August 29, 2000	Head et al.			
	7.	US 6,200,995	March 13, 2001	De la Brouse-Elwood et al.			
	8.	US 6,207,693	March 27, 2001	Setoi et al.			
	9.	US 6,316,482	November 13, 2001	Setoi et al.			
	10.	US 6,369,229	April 9, 2002	Head et al.			

FOREIGN PATENT DOCUMENTS

		Document No.	Date	Country	Class	Sub-Class	Translation
	11.	EP 0619116	October 12, 1994	Europe			
	12.	EP 1048659	November 2, 2000	Europe			
	13.	EP 1336607	August 20, 2003	Europe			
	14.	EP 1496052	January 12, 2005	Europe			
	15.	EP 1600442	November 30, 2005	Europe			
	16.	GB 2331748	June 2, 1999	United Kingdom			
	17.	GB 2385328	August 20, 2003	United Kingdom			
	18.	JP 08143565	June 4, 1996	Japan			Yes
	19.	JP 08173525	July 9, 1996	Japan			Yes
	20.	JP 08301760	November 19, 1996	Japan			Yes
	21.	JP 11171848	June 29, 1999	Japan			Yes
	22.	JP 57021320	February 4, 1982	Japan			Yes
	23.	JP 58069812	April 26, 1983	Japan			Yes
	24.	WO 95/20578	August 3, 1995	WIPO			
	25.	WO 96/22282	July 25, 1996	WIPO			
	26.	WO 96/22293	July 25, 1996	WIPO			
	27.	WO 96/22294	July 25, 1996	WIPO			
	28.	WO 96/22295	July 25, 1996	WIPO			
	29.	WO 96/36619	November 21, 1996	WIPO			Yes
	30.	WO 96/41795	December 27, 1996	WIPO			
	31.	WO 97/49707	December 31, 1997	WIPO			
	32.	WO 97/49708	December 31, 1997	WIPO			
	33.	WO 98/24771	June 11, 1998	WIPO			
	34.	WO 98/45242	October 15, 1998	WIPO			Yes
	35.	WO 99/24415	May 20, 1999	WIPO			Yes
	36.	WO 99/38845	August 5, 1999	WIPO			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

Examiner	Date Considered	

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) PTO Form 1449 May 2, 2007				Attorney Docket No. 056291-5288		Application No. 10/579,552	
				Applicants: Craig JOHNSTONE et al.			
				Filing Date: May 16, 2006		Group Art Unit: Unassigned	
FOREIGN PATENT DOCUMENTS							
		Document No.	Date	Country	Class	Sub-Class	Translation
	37.	WO 99/62901	December 9, 1999	WIPO			
	38.	WO 00/02850	January 20, 2000	WIPO			Yes
	39.	WO 00/26202	May 11, 2000	WIPO			
	40.	WO 00/58293	October 5, 2000	WIPO			
	41.	WO 01/12621	February 22, 2001	WIPO			
	42.	WO 01/16097	March 8, 2001	WIPO			
	43.	WO 01/19788	March 22, 2001	WIPO			
	44.	WO 01/20327	March 22, 2001	WIPO			
	45.	WO 01/44216	June 21, 2001	WIPO			
	46.	WO 01/83465	November 8, 2001	WIPO			
	47.	WO 01/83478	November 8, 2001	WIPO			
	48.	WO 01/85706	November 15, 2001	WIPO			
	49.	WO 01/85707	November 15, 2001	WIPO			
	50.	WO 02/08209	January 31, 2002	WIPO			
	51.	WO 02/14312	February 21, 2002	WIPO			
	52.	WO 02/46173	June 13, 2002	WIPO			
	53.	WO 02/48106	June 20, 2002	WIPO			
	54.	WO 03/000262	January 3, 2003	WIPO			
	55.	WO 03/015774	February 27, 2003	WIPO			
	56.	WO 03/047626	June 12, 2003	WIPO			
	57.	WO 03/055482	July 10, 2003	WIPO			
	58.	WO 03/066613	August 14, 2003	WIPO			
	59.	WO 03/080585	October 2, 2003	WIPO			Yes
	60.	WO 03/095438	November 20, 2004	WIPO			
	61.	WO 03/097824	November 27, 2004	WIPO			Yes
	62.	WO 2004/002481	January 1, 2004	WIPO			
	63.	WO 2004/031179	April 15, 2004	WIPO			
	64.	WO 2004/045614	June 3, 2004	WIPO			
	65.	WO 2004/046139	June 3, 2004	WIPO			
	66.	WO 2004/050645	June 17, 2004	WIPO			
	67.	WO 2004/052869	June 24, 2004	WIPO			
	68.	WO 2004/063179	July 29, 2004	WIPO			
	69.	WO 2004/063194	July 29, 2004	WIPO			
	70.	WO 2004/072031	August 26, 2004	WIPO			
	71.	WO 2004/072066	August 26, 2004	WIPO			
	72.	WO 2004/076420	September 10, 2004	WIPO			Yes
	73.	WO 2004/081001	September 23, 2004	WIPO			Yes
	74.	WO 2004/110375	December 23, 2004	WIPO			
	75.	WO 2005/044801	May 19, 2005	WIPO			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
Examiner				Date Considered			
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FOREIGN PATENT DOCUMENTS							
		Document No.	Date	Country	Class	Sub-Class	Translation
	76.	WO 2005/049019	June 2, 2005	WIPO			
	77.	WO 2005/054200	June 16, 2005	WIPO			
	78.	WO 2005/056530	June 23, 2005	WIPO			
	79.	WO 2005/063738	July 14, 2005	WIPO			Yes
	80.	WO 2005/066145	July 21, 2005	WIPO			
	81.	WO 2005/080359	September 1, 2005	WIPO			
	82.	WO 2005/080360	September 1, 2005	WIPO			
	83.	WO 2005/090332	September 29, 2005	WIPO			Yes
	84.	WO 2005/095417	October 13, 2005	WIPO			
	85.	WO 2005/095418	October 13, 2005	WIPO			
	86.	WO 2005/103021	November 3, 2005	WIPO			
	87.	WO 2005/121110	December 22, 2005	WIPO			
	88.	WO 2005/123132	December 29, 2005	WIPO			
	89.	WO 2006/016174	February 16, 2006	WIPO			
	90.	WO 2006/016178	February 16, 2006	WIPO			
	91.	WO 2006/016194	February 16, 2006	WIPO			
	92.	WO 2006/040527	April 20, 2006	WIPO			
	93.	WO 2006/040528	April 20, 2006	WIPO			
	94.	WO 2006/040529	April 20, 2006	WIPO			
	95.	WO 2006/066613	June 29, 2006	WIPO			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
	96.	Alvarez et al. "Evidence that glucokinase regulatory protein is expressed and interacts with glucokinase in rat brain" J Neurochem. 80(1):45-53 (2002)					
	97.	Alvarez et al. "Expression of the glucagon-like peptide-1 receptor gene in rat brain" J Neurochem. 66(3):920-927 (1996)					
	98.	Bell et al. "Glucokinase mutations, insulin secretion, and diabetes mellitus" Annu. Rev. Physiol. 58:171-186 (1996)					
	99.	Brocklehurst et al. "Stimulation of Hepatocyte Glucose Metabolism by Novel Small Molecule Glucokinase Activators" Diabetes 53:535-541 (2004)					
	100.	Caro et al. "Liver glucokinase: decreased activity in patients with type II diabetes" Horm Metab Res. 27(1):19-22 (1995)					
	101.	Carroll et al. "The in vitro characterisation of a novel Glucokinase activator" Stress, Signalling and Control, Biochemical Society Meeting 679, University of Essex, UK (2-4 July 2003)					
	102.	Cavier et al. "Recherches sur les derives nitres d'interet biologique. XVI. Relations entre structures et activites protozoocides, anthelminthiques et molluscicides dans la serie du benzamido-2 nitro-5 thiazole" European Journal of Medicinal Chemistry, Chimica Therapeutica, 13(6): 539-543 (1978) (Translation enclosed)					
	103.	Christesen et al. "The second activating glucokinase mutation (A456V): Implications for glucose homeostasis and diabetes therapy" Diabetes 51(4):1240-1246 (2002)					
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FOREIGN PATENT DOCUMENTS							
		Document No.	Date	Country	Class	Sub-Class	Translation
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
	104.	Coghlan "Small molecule Glucokinase Activators (GKAs) as novel anti-diabetic agents" CIDEM seminar (May 2005)					
	105.	Coghlan "Small molecule Glucokinase Activators (GKAs) as novel anti-diabetic agents" Society for Medicines Research Seminar (June 2004)					
	106.	Cushman et al. "Synthesis and evaluation of new protein-tyrosine kinase inhibitors. Part 1. pyridine-containing stilbenes and amides" Bioorganic & Medicinal Chemistry Letters 1(4):211-214 (1991)					
	107.	DeFronzo et al. "The triumvirate: β -cell, muscle, liver. A collusion responsible for NIDDM" Diabetes 37:667-687 (1988)					
	108.	Desai et al. "Phenotypic correction of diabetic mice by adenovirus-mediated glucokinase expression" Diabetes 50:2287-2295 (2001)					
	109.	Ferre et al. "Correction of diabetic alterations by glucokinase" PNAS USA. 93(14): 7225-7230 (1996)					
	110.	Ford et al. "Synthesis and quantitative structure-activity relationships of antiallergic 2-hydroxy-N-1H-tetrazol-5-ylbenzamides and N-(2-hydroxyphenyl)-1H-tetrazole-5-carboxamides" J Med Chem. 29(4):538-549 (1986)					
	111.	Froguel et al. "Familial hyperglycemia due to mutations in glucokinase - Definition of a subtype of diabetes mellitus" New Engl. J. Med. 328:697-702 (1993)					
	112.	Fujimoto et al. "Administration of D-glucosamine into the third cerebroventricle induced feeding accompanied by hyperglycemia in rats" Life Sciences 37(26):2475-2482 (1985)					
	113.	Gill et al. "Stimulation of insulin release by a small molecule glucokinase activator" EASD Islet Study Group Abstract (November 2005)					
	114.	Glaser et al. "Familial hyperinsulinism caused by an activating glucokinase mutation" The New England Journal of Medicine 338(4):226-230 (1998)					
	115.	Grimsby et al. "Allosteric activators of glucokinase: potential role in diabetes therapy" Science 301(5631):370-373 (2003)					
	116.	Guertin et al. "Small Molecule Glucokinase Activators as Glucose Lowering Agents: A New Paradigm for Diabetes Therapy" Current Medicinal Chemistry 13(15): 1839-1843 (2006)					
	117.	Kurata et al. "D-Glucose suppression of eating after intra-third ventricle infusion in rat" Physiology & Behavior 37:615-620 (1986)					
	118.	Kurata et al. "Structural evaluation of glucose analogues on feeding elicitation in rat" Metabolism 38(1):46-51 (1989)					
	119.	Leighton et al. "Small molecule glucokinase activators as novel anti-diabetic agents" Biochem Soc Trans. 33(Pt 2):371-374 (April 2005)					
	120.	Levin et al. "Brain glucose sensing and body energy homeostasis: role in obesity and diabetes" Am J Physiol. 276(5 Pt 2):R1223-R1231 (1999)					
	121.	Levin et al. "Differential effects of diet and obesity on high and low affinity sulfonylurea binding sites in the rat brain" Brain Research 739(1-2):293-300 (1996)					
	122.	Levin et al. "In vivo and in vitro regulation of [3H]glyburide binding to brain sulfonylurea receptors in obesity-prone and resistant rats by glucose" Brain Research 776(1-2):146-153 (1997)					
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FOREIGN PATENT DOCUMENTS							
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
	123.	Levin et al. "Reduced glucose-induced neuronal activation in the hypothalamus of diet-induced obese rats" Brain Research 808(2):317-319 (1998)					
	124.	Levin, B. E. "Glucosensing neurons do more than just sense glucose" International Journal of Obesity, 25, suppl 5: S68-S72 (2001)					
	125.	Lynch et al. "Localization of glucokinase gene expression in the rat brain" Diabetes 49(5):693-700 (2000)					
	126.	McKerrecher "Design and synthesis of novel glucokinase activators" 13th RSC-SCI Medicinal Chemistry Symposium, Churchill College Cambridge (September 2005)					
	127.	McKerrecher et al. "Design and synthesis of novel glucokinase activators as potential treatment for type 2 diabetes" Frontiers in Medicinal Chemistry, Frankfurt (March 2006)					
	128.	McKerrecher et al. "Design of a potent, soluble glucokinase activator with excellent in vivo efficacy" Bioorg Med Chem Lett. 16(10):2705-2709 (2006 May 15) Epub 2006 Feb 28					
	129.	McKerrecher et al. "Discovery, synthesis and biological evaluation of novel glucokinase activators" Bioorg Med Chem Lett. 15(8):2103-2106 (2005)					
	130.	McKerrecher et al. "Identification of orally bioavailable small molecule activators of glucokinase" Abstract, 12 th SCI-RSC Medicinal Chemistry Symposium, Cambridge, UK, 7-10 September 2003 (poster 21) and 227 th American Chemical Society National Meeting and Exposition, Anaheim, California, 28 March-1 April 2004 (paper 341)					
	131.	McKerrecher et al. "Identification of orally bioavailable small molecule activators of glucokinase" Abstract, Anglo-Swedish Medicinal Chemistry Meeting (March 2005)					
	132.	Mobbs et al. "Brain glucose-sensing mechanisms: ubiquitous silencing by aglycemia vs. hypothalamic neuroendocrine responses" Am J Physiol Endocrinol Metab. 281(4):E649-E654 (2001)					
	133.	Moore et al. "Acute fructose administration improves oral glucose tolerance in adults with type 2 diabetes" Diabetes Care 24(11):1882-1887 (2001)					
	134.	Printz et al. "Mammalian glucokinase" Annu Rev Nutr. 13:463-496 (1993)					
	135.	Qian-Cutrone et al. "Glucolipin A and B, two new glucokinase activators produced by Streptomyces purpurogeniscleroticus and Nocardia vaccinii" J Antibiot (Tokyo) 52(3):245-255 (1999)					
	136.	Rogers et al. "Mesoionic purinone analogues as inhibitors of cyclic-AMP phosphodiesterase: a comparison of several ring systems" J. Med. Chem. 24(11):1284-1287 (1981)					
	137.	Roncero et al. "Functional glucokinase isoforms are expressed in rat brain" J Neurochem. 74(5):1848-1857 (2000)					
	138.	Rowe et al. "Potassium channel dysfunction in hypothalamic glucose-receptive neurones of obese Zucker rats" Journal of Physiology 497.2:365-377 (1996)					
	139.	Schuit et al. "Glucose sensing in pancreatic β -Cells. A model for the study of other glucose-regulated cells in gut, pancreas, and hypothalamus" Diabetes 50:1-11 (2001)					
	140.	Seoane et al. "Glucokinase overexpression restores glucose utilization and storage in cultured hepatocytes from male Zucker diabetic fatty rats" J Biol Chem. 274(45):31833-31838 (1999)					
	141.	Shiota et al. "Glucokinase gene locus transgenic mice are resistant to the development of obesity-induced type 2 diabetes" Diabetes 50(3):622-629 (2001)					
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